

13.1 When is it true?

Name _____

I will define equations as always, sometimes, or never true.

Part 1: Define each equation as **always true**, **sometimes true**, or **never true** and give a reason.

Equation	Always	Sometimes	Never	Reason
a.) $5(x - 7) = 5x - 35$				
b.) $2x^2 = 50$				
c.) $4x - (3x + 2) = x - 7$				
d.) $\frac{2}{3}(x - 9) = \frac{3}{4}(2x + 5)$				

What are good strategies for showing when something is true?

Part 2. Define each equation as **always true**, **sometimes true**, or **never true** and give a reason. Use graphs, inverse functions, your unit circle or any algebra to show your reasoning.
*Make sure your calculator is in **radians**.

Equation	Always	Sometimes	Never	Reason
a.) $\sin(x) = \frac{1}{2}$				
b.) $\cos(x) = 2$				
c.) $\sin(x) = \cos\left(\frac{\pi}{2} - x\right)$				

Equation	Always	Sometimes	Never	Reason
d.) $2\sin(x) = \sqrt{3}$				
e.) $\tan(x) = 0$				
f.) $\sin(x) = 3/2$				